RECLAMATION

Managing Water in the West

DROUGHT EMERGENCY WATER WELL FOR HAGERMAN, NEW MEXICO

FINAL ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT

U.S. Department of the Interior
Bureau of Reclamation
Albuquerque Area Office
Albuquerque, New Mexico

July 2008

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Prepared by:

BIO-WEST, Inc.
1063 West 1400 North
Logan, Utah 84321-2291
435.752.4202
www.bio-west.com

U.S. Department of the Interior
Bureau of Reclamation
Albuquerque Area Office
Albuquerque, New Mexico

FINDING OF NO SIGNIFICANT IMPACT

Town of Hagerman
Drought Emergency Water Well
Chaves County, New Mexico

For Manager, Environment Division — Date: 7-8-08

Area Manager, Albuquerque, New Mexico — Date: 7/11/08

FONSI Number: AAO-08-008

Summary of the Proposed Action

Reclamation will provide funding to drill an approximately 1050-foot deep water well into the San Andres limestone geologic formation to tap into the subsurface aquifer of the Roswell Artesian Basin. The well would be drilled on a site prepared by the Town of Hagerman, located approximately 2 miles southwest of the town. A supplemental water supply source would help the Town of Hagerman maintain a municipal water supply during drought. The town has obtained a permit for an exploratory well from the Office of New Mexico State Engineer.

Water produced by the well would be pumped into a new 10-inch water pipeline and transported to the existing water treatment facility. The distribution system is already established in the Town of Hagerman and would require an approximate 3-mile pipeline to connect it to the well.

Background

Record drought in the southwestern United States continues to threaten municipal water supplies with severe shortages. The Town of Hagerman, New Mexico, is dependent on groundwater wells for its municipal water. Nearly all of Hagerman's water is supplied by groundwater pumped from 2 existing municipal water wells. These wells range in depth from 900 to 1,000 feet and pull water from the San Andres formation of the Roswell Artesian Basin. One of the wells has poor water quality and is seldom used. Long, prolonged periods of drought such as the current event have a negative impact on groundwater levels, often requiring the need for deeper and more expensive wells. The drought is forecast to continue and may be very long, based on the historic record. Support for drought emergency well drilling was authorized by the U.S. Congress in Title 1 of the Reclamation States Emergency Drought Relief Act of 1991.

Environmental Impacts

The following resources and socioeconomic factors were evaluated in detail in the Environmental Assessment for anticipated impacts from implementation of the drought emergency water well and associated water pipeline: water resources, Federal and state-listed species, vegetation and wildlife, noxious weeds, soil erosion, air quality, cultural and archaeological resources, Indian trusts assets, socioeconomic, environmental justice, and visual resources. The following resources are discussed further in the Environmental Assessment document.

Water Resources

There is no information available that indicates the proposed well would impact any wells in the surrounding area. Information provided by the Town of Hagerman indicates the existing city wells (one of which has poor water quality) and the currently proposed well tap into the same water source. New impacts would be less likely since a new groundwater source would not be developed and because no additional water beyond Hagerman's existing water rights would be removed. No significant impacts to surface water, water quality, or ground water from this action are expected.

Federal and State Listed Species

No impact would occur to endangered, threatened, or sensitive plant or animal species on the well site.

Vegetation and Wildlife

Soils and vegetation disturbance would be kept to a minimum, vegetation cover would be left undisturbed whenever possible, and disturbed areas would be reseeded with native species. Temporary displacement of wildlife species due to increased human presence and noise from the construction activities would occur in the immediate area. Wildlife would temporarily leave the area but should return in a short period of time. No significant impact is expected.

Noxious Weeds

Implementation of the proposed action has the potential to result in the introduction and establishment of State-listed and other noxious weed species. However, an aggressive revegetation plan, combined with thorough cleaning of all equipment before arriving on site, would minimize that potential.

Soils Erosion

Soils and vegetation disturbance would be kept to a minimum, vegetation cover would be left undisturbed whenever possible, and disturbed areas would be reseeded with native species.

Air Quality

During construction, there would be temporary increases in suspended dust (sediment transfer), resulting from activities such as vehicle traffic. No equipment or facilities requiring permitting through the New Mexico Environment Department Air Quality Bureau (NMAQB) are proposed for the action.

Cultural and Archaeological Resources

There are no known structures or sites eligible for the National Register of Historic Places (NRHP) that would be affected by the Proposed Action. In addition, no sacred sites or traditional cultural properties are known to exist in the project area. If cultural or archaeological resources are encountered during site construction or drilling activities, work will stop and the Reclamation Area Archaeologist will be notified immediately. Should consultation with Tribes result in the identification of any such sites or properties, Reclamation would then consult with the Tribes concerned to ensure no adverse effects result from the Proposed Action Alternative.

Indian Trust Assets

No Indian Trust Assets have been documented in the project area. Therefore, Reclamation anticipates no impact to Indian Trust Assets resulting from the proposed action.

Socioeconomics

The proposed action would result in the creation of a small number of jobs for site preparation and drilling contractors during the construction and drilling phases of the project.

Environmental Justice

Implementation of the proposed action would not disproportionately (unequally) affect any low-income or minority communities within the project area.

Visual Resources

Visual quality impacts of the proposed action would result from temporary construction activities such as the generation of fugitive dust, increased traffic at the site, and the visual effects of the drill rig and construction equipment. None of these temporary visual quality impacts are significant on a local or regional scale.

Cumulative Impacts

Cumulative impacts as a result of the Proposed Action Alternative are expected to be minimal. This project, in combination with other planned projects in the area (e.g., 3 miles of 10-inch water pipeline construction), would not be expected to result in any long-term adverse cumulative effects to identified resources. The short-term cumulative effects of construction activities would be small in the overall regional context and would be temporary in nature.

Conclusion

Based on the analysis presented in the EA, Reclamation's assessment of Indian Trust Assets and Environmental Justice, and agency and public comment on the Draft EA, Reclamation finds that there would be no significant impacts associated with the proposed action. Reclamation makes this Finding of No Significant Impact (FONSI) pursuant to the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) and the Council on Environmental Quality implementing regulations (40 CFR 1500). Reclamation has determined that the proposed action does not constitute a major Federal action that would significantly affect the human environment. Therefore, no environmental impact statement would be prepared for this proposal.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1. Purpose of and Need for Action

1.1 Introduction

Record drought in the southwestern United States continues to threaten municipal water supplies with severe shortages. The Town of Hagerman, New Mexico, is dependent on groundwater for its municipal water, with approximately 99 percent of its water supplied by groundwater pumped from two existing wells located within the town (Figure 1). These wells range in depth from 900 to 1,000 feet and pull water from the San Andres limestone aquifer of the Roswell Artesian Basin. Prolonged periods of drought and unregulated irrigation withdrawals have a negative impact on groundwater levels, often requiring the need for deeper and more expensive wells. The drought is forecast to continue and may be very long, based on the historic record. Support for drought emergency well drilling was authorized by the U.S. Congress in Title 1 of the Reclamation States Emergency Drought Relief Act of 1991.

1.2 Background

The Town of Hagerman's two existing wells are not sufficient to supply a consistent source of good quality water. During summer as the aquifer water level drops, the Town's primary well does not supply enough water to meet demand. The Town's backup well has extremely poor water quality. A new well is needed to supplement the Town's municipal water supply in case of emergency. The extreme fluctuation in ground water levels and the lack of surface water sources in the area make a reliable ground water source extremely important.

1.3 Proposed Action

The Federal action addressed in this Environmental Assessment (EA) would be the funding and development of a municipal groundwater well for the Town of Hagerman. The proposed drought emergency water well would be drilled by a private contractor, licensed to drill water wells in the State of New Mexico, for the U.S. Department of the Interior Bureau of Reclamation (Reclamation). The Town of Hagerman has obtained the necessary permit to drill an exploratory water well from the New Mexico Office of the State Engineer (NMOSE). The proposed project is located on city-owned land near the intersection of Petree Road and Shoshoni Road in Chaves County, New Mexico. The legal description of the well site is: SW 1/4 of Section 21, Township 14 South, Range 26 East, N.M.P.M. The project site is located near Buffalo Valley, just a couple of miles west of the Pecos River. The project elevation is approximately 3,465 feet above sea level. The proposed well would tie into the existing municipal water system with a 3.0-mile pipeline (Figure 1).

1.4 Purpose of and Need for Proposed Action

The purpose of the proposed action is to provide a supplemental source of municipal water for the Town of Hagerman to fully utilize their existing water rights by providing additional capacity and operational flexibility during a drought emergency. The project is needed due to the severe drought now gripping the southwest United States and the potential for the drought to continue for the indeterminate future.

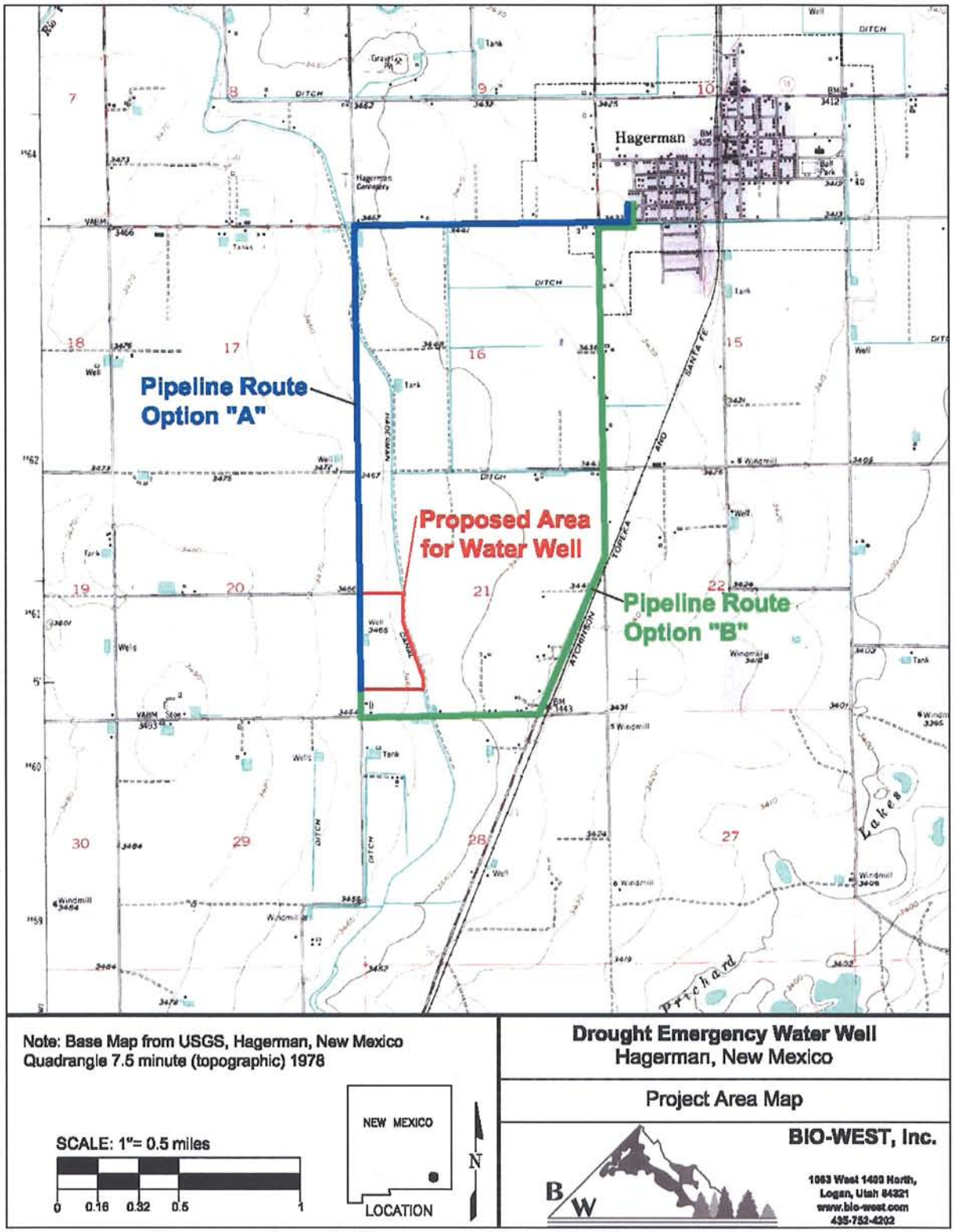

Figure 1. Hagerman Drought Emergency Water Well Project Area Location Map.

Chapter 2. Description of Proposed Action and Alternatives

2.1 Introduction

This chapter describes the two alternatives analyzed in this EA. Alternative A is the No Action Alternative. Alternative B is the Proposed Action Alternative. Following the alternative descriptions section, the decision making process for advancing or eliminating alternatives is described.

2.2 No Action Alternative

The No Action Alternative includes not drilling a supplemental groundwater well and continued reliance on existing water sources for municipal water supply for the Town of Hagerman. Water supplies would likely continue to decline through the drought period. Municipal water supply may fall below projected water demand, resulting in potential water shortages. Water shortages may affect public health and safety, including water for sanitation and fire-fighting. The lack of adequate water could affect the Town of Hagerman's ability to attract new development and may result in economic decline for the town.

2.3 Proposed Action Alternative

Reclamation contractors would drill an approximately 1,050-foot-deep water well into the San Andres limestone geologic formation to tap into the subsurface aquifer of the Roswell Artesian Basin. A supplemental water supply source would provide additional capacity and operational flexibility for the Town of Hagerman and would help maintain a municipal water supply during drought. The town has obtained a permit for an exploratory water well from the NMOSE.

Water produced by the proposed well would be pumped into the existing municipal water system pipeline and transported to the existing water treatment facility. The primary collection and distribution lines are already established, although a 3-mile segment of pipeline to connect the existing water system to the proposed well would be required (Figure 1). This related action includes the construction of approximately 3 miles of 10-inch collector line within an existing road easement to connect the proposed well to the existing infrastructure.

The well site is located on Town-owned land outside of its municipal boundaries in Chaves County. The well site has been previously disturbed by agricultural activities. The well site is within an unincorporated area of the County zoned for agriculture.

The well would be placed on an existing well pad prepared by the Town of Hagerman. The well pad would be approximately 1 to 2 acres in size and would be accessed by the existing Shoshoni Road, which has a paved surface. All drilling fluids and pumped test waters would be contained on the site. No water or drilling fluids would be allowed to flow into nearby canals or natural drainages. A stormwater pollution prevention plan would be prepared and implemented by the drilling contractor. Any temporary retention structures would be built on previously disturbed land.

The proposed well would be 13 inches in diameter. The well would be carefully cased and sealed in the near-surface geology (i.e., the top 40 feet) with a 20-inch diameter casing to prevent any alteration of the near-surface water table.

2.4 Alternatives Considered But Eliminated from Detailed Analysis

Congressional authorization and funding for the Proposed Action Alternative is specifically for drought emergency municipal water wells. Therefore, no other alternatives were considered.

Chapter 3. Affected Environment and Environmental Consequences

3.1 Introduction

A review of the two alternatives presented in Chapter 2, in addition to a site visit by resource specialists, resulted in the identification of eleven environmental resources that either must be reviewed by law or that could be affected by either the Proposed Action Alternative or No Action Alternative. This chapter describes the existing conditions of the eleven environmental resources, as well as the potential effects of each alternative on those resources. Cumulative impacts and environmental commitments are also presented in this chapter. A summary of impacts by resource issue for each alternative is provided in Table 1.

Table 1. Summary of Environmental Impacts by Resource for Each Alternative.

ENVIRONMENTAL COMPONENT	ALTERNATIVE		DISCUSSION
	NO ACTION	PROPOSED ACTION	
Air Quality	No	No	Project area is not in a non-attainment zone.
Cultural and Archaeological Resources	No	No	Previously disturbed project location; no cultural resources are known to be present.
Environmental Justice	Yes	No	The "No action" would disproportionately affect poorer components of the community, who have fewer alternatives if water is scarce.
Farmlands, Prime/Unique	No	No	None present.
Federal and State listed threatened and endangered species or critical habitat	No	No	No suitable habitat. Species not present.
Floodplains	No	No	None present.
Hazardous Materials	No	No	None present.
Indian Trust Assets	No	No	None present.
Noxious Weeds	No	No	None present.
Soil Erosion	Yes	No	Previously disturbed project location.
Vegetation and Wildlife	No	No	No effect to important vegetation or wildlife species.
Visual Resources	No	Yes	Temporary construction impacts.
Water Resources	No	No	No effect to existing surface or groundwater resources.
Wetlands-Riparian Zones	No	No	None present.

3.2 Water Resources

There are no perennial, intermittent, or ephemeral drainages within the project area that would be affected. There are no jurisdictional wetlands located within the project area. The existing Hagerman Canal forms the eastern boundary of the proposed well site.

A search of the NMOSE water rights database revealed numerous groundwater wells located within the surrounding area. The wells in the area are used to supply water for municipal, domestic, and irrigation uses. Two of these wells are owned by the Town of Hagerman and are used to provide the municipal water supply under their existing water rights. These wells pump water from the Artesian subsurface aquifer system. The remainder of the wells in the immediate area are completed in the shallow aquifer and range in depth from 100 to 235 feet below surface grade. The estimated static groundwater level in the proposed well is approximately 100 feet below surface grade. Water from the proposed well would be pumped from the San Andreas Formation of the Artesian subsurface aquifer. The Artesian aquifer is a recharging aquifer. Groundwater from the Artesian aquifer in the Hagerman area is commonly high in Total Dissolved Solids (TDS) and has elevated concentrations of chloride (Land and Newton 2008).

No Action Alternative
There would be no effects on surface water resources under the No Action Alternative. Under the No Action Alternative the two existing town wells would continue to pump groundwater from the area to supply water to the Town of Hagerman under their existing water rights.

Proposed Action Alternative
There would be no effects on surface water resources under the Proposed Action Alternative. The currently proposed well would be drilled to approximately 1050 feet below the existing land surface into the San Andres formation of the artesian subsurface aquifer. The proposed well would be used to supplement the Town of Hagerman's municipal water supply infrastructure under their existing water rights.

3.3 Federal and State-Listed Species

Ten Federally protected and 28 state protected species were identified for Chaves County (Appendix A, BISON-M 2008, NMNHP 2008). Based on species specific habitat requirements, the highly disturbed nature of the project area, and the lack of suitable and/or potentially suitable habitat, no State or Federally protected species are thought to occur within the approximately 2-acre project area.

No Action Alternative
There would be no change to the existing conditions and no effects to State or Federally listed species under the No Action Alternative.

Proposed Action Alternative
No suitable or potentially suitable habitat exists for any State or Federally listed species within the project area. A "no effect" determination for listed species has been made by a qualified wildlife biologist for the Proposed Action Alternative.

3.4 Vegetation and Wildlife

As reported by Bailey (1995), the project area lies within the Southwest Plateau/Plains Dry Steppe and Shrub province, which is generally characterized by arid grasslands in which shrubs and low trees grow. In New Mexico, this province is best described by xerophytic grasses such as blue grama (*Bouteloua gracilis*) and buffalo grass (*Bouteloua dactyloides*); however, mesquite (*Prosopis glandulosa*) grows in open stands among the grasses. Mammal species common to the Southwest Plateau/Plains Dry Steppe and Shrub province include the Mexican ground squirrel (*Spermophilus mexicanus*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis letrans*), skunk (*Mephitis mephitis*), and various species of mice, rats, bats, rabbits, and other small mammals.

No Action Alternative
Under the No Action Alternative, existing vegetation, including native and non-native species, would remain in place and would not provide suitable habitat for most wildlife. Disturbance-related vegetation species would likely persist and areas void of vegetation would likely be susceptible to erosion from wind and water.

Proposed Action Alternative
Activities associated with implementation of the Proposed Action Alternative would not disturb portions of the landscape that are not currently highly disturbed. Native grasses and wildflowers would be seeded in areas disturbed by construction that are not needed for well operation to re-establish an appropriate vegetative cover. Although construction activities may displace existing wildlife temporarily, most animal species in the project area would be able to return after project completion. Some mortality of less mobile species would be expected as a result of construction, but not in quantities that would damage local populations.

3.5 Noxious Weeds

No populations of State-listed noxious weeds were observed in the project area during a recent site visit.

No Action Alternative
Under the No Action Alternative, no additional ground-disturbing activities would be undertaken. Therefore, there would be no effect on existing noxious weed infestations.

Proposed Action Alternative
Whenever land is disturbed, the potential exists for the intrusion and establishment of noxious weeds. The Proposed Action Alternative could disturb up to 2 acres of land, depending upon how much space is ultimately needed for construction and staging activities. To minimize the potential for the continued establishment and spread of State-listed and other noxious weeds, a revegetation plan would be implemented. In addition to re-seeding areas disturbed during construction, the introduction of noxious weed seeds would be minimized by a requirement that all equipment used on the project be pressure washed before arriving and leaving the site. As such, the potential for noxious weeds becoming established in the project area over time would be minimal.

3.6 Soil Erosion

Any activities that reduce or eliminate vegetation have the potential to result in soil erosion until vegetation is re-established. The project area has been disturbed as a result of past agricultural activities and is currently surrounded by a region of farming and ranching activities. Ranching (e.g., livestock grazing), farming (e.g., crops), and development (e.g., housing and infrastructure) activities often eliminate or reduce vegetation cover, even if only temporarily, and thus become a potential cause of soil erosion during periods of precipitation runoff. Some limited soil erosion at the project area was observed during recent site visits.

No Action Alternative
Erosion of existing soils within the project area would continue under the No Action Alternative until such time as the vegetation becomes re-established naturally.

Proposed Action Alternative
During construction, the removal of vegetation and disturbance of soil could result in localized soil erosion at the project area. However, standard construction Best Management Practices (BMPs) would be implemented to minimize runoff during construction. Consequently, most runoff would be contained within the active construction site. The re-establishment of native vegetation in the project area following construction would ultimately reduce soil erosion. Because the proposed project could result in the disturbance of more than 1 acre of land, a notice of intent (NOI) would be submitted by the contractor under the New Mexico Construction General Permit and a Stormwater Pollution Prevention Plan (SWPP) would be prepared and implemented.

3.7 Air Quality

The Clean Air Act of 1970, as amended, established National Ambient Air Quality Standards (NAAQS) (40 CFR 1 Section 81.332) to protect the public from exposure to dangerous levels of several air pollutants. Chaves County is in Air Quality Control Region (AQCR) 155, also known as the Pecos-Permian Basin AQCR (NMED 2008). The AQCR 155 has been classified as an attainment area for all air pollutants identified in the NAAQS (eCFR 2008). Because of this classification, the proposed project is not subject to Environmental Protection Agency requirements for ambient monitoring. The project area is occasionally used for farming activities, which results in the generation of a small amount of exhaust and fugitive dust during dry conditions.

No Action Alternative
There would be no effects to air quality under the No Action Alternative.

Proposed Action Alternative
Fugitive dust generation from drilling and grading activities in the project area, along with exhaust emissions from heavy equipment and vehicles working on the project, are the only anticipated effects to air quality during construction. These temporary effects would not be expected to be significantly adverse. Fugitive dust would be suppressed by spreading water over disturbed areas where heavy equipment is working during dry conditions. Exhaust emissions

from heavy equipment and vehicles working on the project would dissipate rapidly before leaving the project area. There would be no effects to air quality following completion of construction activities and re-establishment of vegetation in disturbed areas.

3.8 Cultural and Archaeological Resources

Reclamation conducted a check in the Archaeological Records Management Section (ARMS) and found no recorded sites within the proposed project site.

No Action Alternative
There would be no effects to cultural or archaeological resources, or sacred sites, under the No Action Alternative.

Proposed Action Alternative
There are no structures or sites eligible for the National Register of Historic Places (NRHP) that would be affected by the Proposed Action Alternative. It has been determined that the Proposed Action Alternative would have no effect to cultural or archaeological resources. If cultural or archaeological resources are encountered during site construction or drilling activities, work would stop and the Reclamation Area Archaeologist would be notified immediately. In addition, no sacred sites or traditional cultural properties are known to exist in the project area. However should consultation with Tribes result in the identification of any such sites or properties, then Reclamation would consult with the Tribes concerned to ensure no adverse effects result from the Proposed Action Alternative.

3.9 Indian Trust Assets (ITAs)

Indian Trust Assets (ITAs) or resources are defined as legal interests in assets held in trust by the U.S. Government for Native American Indian tribes or individual tribal members. Examples of ITAs are lands, minerals, water rights, other natural resources, money, or claims. An ITA cannot be sold, leased, or otherwise alienated without approval of the Federal government. Reclamation consultation with potentially affected Tribes and the Bureau of Indian Affairs has yielded no known ITAs within the project area.

No Action Alternative
There would be no effects to ITAs under the No Action Alternative.

Proposed Action Alternative
Because there are no known ITAs within the project area, there would be no effects to ITAs under the Proposed Action Alternative.

3.10 Socioeconomics

According to the most recent data from the U.S. Bureau of Economic Accounts (2008), the annual per capita income for the State of New Mexico in 2006 was $29,725. The 2005 annual per capita income for Chaves County was $24,880. According to the most recent data from the U.S. Census Bureau (2008), 43.8 percent of the residents of Chaves County were Hispanic or

Latino, 2.0 percent were Black or African American, and 1.1 percent were American Indian or Alaska Native in the year 2000.

No Action Alternative
There would be no effects to socioeconomics under the No Action Alternative.

Proposed Action Alternative
Implementation of the Proposed Action Alternative would result in the creation of a small number of jobs for contractors during site construction and drilling activities. Construction and drilling activities are anticipated to take approximately 30 days to complete and would employ 2 to 3 individuals during that time period. Assuming materials would be purchased and workers would be employed from the Hagerman/Roswell area, the Proposed Action Alternative would result in minor beneficial effects on the local economy.

3.11 Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires that the effects on minority and low-income populations within a project area be given special consideration to determine if the proposed action would result in disproportionate adverse effects to their communities.

No Action Alternative
A water shortage can be expected to have an impact on the poorest members of a community first; those least able to afford alternative water sources or unable to relocate to areas without shortage. The No Action Alternative could lead to insufficient water for some members of the community during an emergency situation, and would likely impact those with the lowest incomes. Insufficient water may affect health, safety and welfare of the community's poor through lack of water for bathing, clothes washing, cleaning and fire-fighting.

Proposed Action Alternative
No adverse effects to low-income or minority populations are anticipated under the Proposed Action Alternative. Implementation of the Proposed Action Alternative would provide a supplemental water supply for the Town of Hagerman in times of drought, as well as an emergency water source during power outages.

3.12 Visual Resources

Visual quality in this portion of Chaves County varies somewhat, depending on the specific site in question and the viewer. In general, the regional landscape near the project area is well vegetated with upland plant species and farm crops. Human-made features within this portion of the landscape are visible, such as roads, utility corridors, water tanks, and ranch houses. However, most of these features do not dominate the natural landscape. At a more site-specific level, an abandoned irrigation pond and an active irrigation canal are visually prominent at the project area.

No Action Alternative
There would be no effects to visual resources under the No Action Alternative.

Proposed Action Alternative
Impacts of the proposed project include temporary construction effects: dust, noise, increased vehicle traffic to and from the site, and visual impacts of the drill rig and equipment. Once completed, the well and associated equipment would be housed in a small shed, and would blend with the surrounding area. None of these temporary impacts are significant on a local or regional scale.

3.13 Cumulative Impacts

No cumulative impacts from the proposed project are anticipated. This project, in combination with other planned projects in the area (e.g., 3 miles of 10-inch water pipeline construction), would not be expected to result in any long-term adverse cumulative effects to identified resources. The short-term cumulative effects of construction activities would be small in the overall regional context and would be temporary in nature.

Permanent impacts include the effects on the San Andres limestone aquifer of the subsurface Roswell Artesian Basin tapped by the well; the water produced from the proposed well would not be available to others. These effects were considered by the NMOSE in issuing a permit. The water produced would enter the Town's municipal water system, and ultimately be released as effluent. There would be few, if any, operational impacts of the well on the natural environment. Because the well supplements the existing Town of Hagerman's water supply and is limited in volume by the NMOSE permit, it is unlikely to contribute to additional population growth in the area.

3.14 Environmental Commitments

- Should evidence of possible scientific, prehistoric, historic, or archeological data be discovered during the course of this action, work will cease at that location and the Reclamation archaeologist will be notified by phone (505-462-3644) immediately, with the location and nature of the findings. Care will be exercised so as not to disturb or damage artifacts uncovered during operations, and the proponents will provide such cooperation and assistance as may be necessary to preserve the findings for removal or other disposition by the Government. Any person who knows or has reason to know that he or she has inadvertently discovered human remains on Federal or tribal lands, must provide immediate telephone notification of the inadvertent discovery, with written confirmation, to the responsible Federal agency official with respect to Federal lands, and, with respect to tribal lands, to the responsible Indian tribe official. The requirement is prescribed under the Native American Graves Protection and Repatriation Act (P.L. 101-601; 104 Stat. 3042) of November 1990 and National Historic Preservation Act, Section 110(a)(2)(E)(iii) (P.L. 102-575, 106 Stat. 4753) of October 1992.

- Native grasses and wildflowers will be seeded in areas disturbed by construction to re-establish vegetation. Only the amount of the proposed staging and drilling areas needed would be used or disturbed. Upon completion of stabilization activities, all work areas would be cleaned up and all materials and equipment removed.

- To minimize the potential for the establishment of State-listed and other noxious weeds, an aggressive revegetation plan will be implemented. In addition to seeding, the introduction of noxious weed seeds would be minimized by requiring that all project equipment be pressure washed before arriving and leaving the project area.

- To minimize soil erosion during rain storms, standard construction BMPs will be utilized to minimize runoff during construction activities.

- Fugitive dust will be suppressed by spreading water over disturbed areas where heavy equipment is working during dry conditions.

Chapter 4. Consultation and Coordination

This chapter presents the persons and agencies consulted as part of developing this EA. Copies of public and agency correspondence are contained in Appendix B.

4.1 Persons and Agencies Consulted

- Cliff Waide, Mayor, Town of Hagerman
- Bobby Jay, Tribal Administrator, Apache Tribe of Oklahoma
- Johnny Wauqua, Chairman, Comanche Tribal Business Committee
- Leigh Kuwanwisiwma, Director, Hopi Tribe Cultural Preservation Office
- John Sorrell, Hydrology, Pueblo of Isleta
- Levi Pesata, President, Jicarilla Apache Nation
- Billy Evans Horse, Chairman, Kiowa Tribe of Oklahoma
- Carlton Palmer, President, Mescalero Apache Tribe
- Joe Shirley, President, Navajo Nation
- Frank Paiz, Governor, Ysleta del Sur Pueblo
- Wallace Coffey, Chairman, Comanche Indian Tribe
- Jeff Houser, Chairman, Fort Sill Apache Tribe of Oklahoma
- Wayne Taylor, Jr., Chairman, Hopi Tribe
- Robert J. Benavides, Governor, Pueblo of Isleta
- George Daingkau, Kiowa NAGPRA Coordinator
- Earl Yeahquo, Chairman, Kiowa Business Committee
- Lawrence Morgan, Speaker, Navajo Nation Council
- Rick Casada, Cultural Resources Coordinator, Pueblo of Ysleta del Sur
- Donna Stern-McFadden, Tribal Historic Preservation Officer, Mescalero Apache Tribe

Chapter 5. List of Preparers

This chapter presents the individuals who contributed to the technical content of this EA. The document was produced by BIO-WEST, Inc., located in Logan, Utah, with project management and oversight provided by Reclamation staff from the Albuquerque Area Offices located in Albuquerque, New Mexico.

5.1 BIO-WEST Staff Contributors

NAME	RESPONSIBILITY	QUALIFICATIONS	PARTICIPATION
Aaron Crookston	Planner and CAD Specialist	B.L.A. Landscape Architecture; 2 years professional experience.	Mapping and construction drawings, air quality analysis.
Chris Sands	Project Manager	B.L.A. Landscape Architecture, M.L.A. Landscape Architecture; 19 years professional experience.	Project management, document development, and visual analysis.
Mike Sipos	Wildlife Biologist	B.S. Wildlife Science, M.S. Wildlife Science; 9 years professional experience.	Threatened and Endangered species, wildlife, and vegetation analysis.
Wes Thompson	Hydro-geologist	A.S. Geology, B.S. Composite Sciences; 20 years professional experience.	Water resources analysis.
Sandra Turner	Chief Editor	B.S. English; 15 years professional experience.	Editorial oversight, proofreading, document design, and document formatting.

5.2 Bureau of Reclamation Staff Contributors

- Marsha Carra, Environmental Protection Specialist and NEPA Project Manager
- Chris Gorbach, Supervisory Civil Engineer
- Mark Hungerford, Archaeologist

Chapter 6. References

Bailey, R.G. 1995. Description of the ecoregions of the United States. 2nd ed. Rev. and expanded (1st ed. 1980). Misc. Publ. No. 1391 (rev.), Washington, DC: USDA Forest Service. 108 p. with separate map at 1:7,500,000.

[BISON-M] New Mexico Department of Game and Fish. 2008. BISON-M Chaves County species database query. Location: http://www.bison-m.org. 3/10/2008.

[eCFR] Electronic Code of Federal Regulations. 2008. Air Quality Control Region Designations. Location: http://ecfr.gpoaccess.gov. 3/4/08.

Land, L., and Newton, B.T., 2008. Seasonal and long-term variations in hydraulic head in a karstic aquifer: Roswell Artesian Basin, New Mexico. In: Journal of the American Water Resources Association, Vol. 44, No. 1, p. 175-191.

[NMED] New Mexico Environmental Department. 2008. New Mexico Environmental Department Air Quality Bureau Air Quality Control Regions. Location: http://www.nmenv.state.nm.us /aqb/modeling/aqcr_map.html. 3/4/2008.

[NMNHP] New Mexico Natural Heritage Program. 2008. New Mexico Vegetation Database. Location: http://nhnm.unm.edu/. 3/13/2008.

U.S. Bureau of Economic Accounts. 2008. Regional economic accounts, personal income and per capita personal income by county for New Mexico. Location: http://www.bea.gov/regional/reis/. 3/10/2008.

U.S. Census Bureau. 2008. New Mexico demographic information by county. Location: http://factfinder.census.gov. 3/4/2008.

APPENDIX A: THREATENED AND ENDANGERED SPECIES LISTS

Biota Information System Of New Mexico

Providing New Mexico and its wildlife Year-round Excellent Service

Close Window

Disclaimer Policy

Print Page

Database Query

Your search terms were as follows:

County Name
Chaves

Status
Federal: Endangered
Federal: Threatened
Federal: T & E by Similar Appearance
Federal: Warranted/Precluded
State NM: Endangered
State NM: Threatened

28 species returned.

Taxonomic Group	# Species	Taxonomic Group	# Species
Fish	8	Mammals	1
Reptiles	2	Molluscs	3
Birds	13	Crustaceans	1

Click the up- or down-arrows next to the column headers to sort the results.

Common Name ▲▼	Scientific Name ▲▼	County	Status
Darter, Greenthroat	Etheostoma lepidum	Chaves	State NM: Threatened
Gambusia, Pecos	Gambusia nobilis	Chaves	Federal: Endangered State NM: Endangered
Logperch, Bigscale	Percina macrolepida (Native pop.)	Chaves	State NM: Threatened
Minnow, Suckermouth	Phenacobius mirabilis	Chaves	State NM: Threatened
Pupfish, Pecos	Cyprinodon pecosensis	Chaves	State NM: Threatened
Redhorse, Gray	Moxostoma congestum	Chaves	State NM: Threatened
Shiner, Bluntnose, Pecos	Notropis simus pecosensis (NM)	Chaves	Federal: Threatened State NM: Endangered
Tetra, Mexican	Astyanax mexicanus	Chaves	State NM: Threatened

Lizard, Sand Dune	Sceloporus arenicolus	Chaves	State NM: Endangered
Snake, Ribbon, Western	Thamnophis proximus diabolicus (NM)	Chaves	State NM: Threatened
Black-Hawk, Common	Buteogallus anthracinus anthracinus (NM)	Chaves	State NM: Threatened
Cormorant, Neotropic	Phalacrocorax brasilianus	Chaves	State NM: Threatened
Eagle, Bald	Haliaeetus leucocephalus alascanus (NM)	Chaves	State NM: Threatened
Falcon, Peregrine	Falco peregrinus anatum	Chaves	State NM: Threatened
Falcon, Peregrine, Arctic	Falco peregrinus tundrius	Chaves	State NM: Threatened
Flycatcher, Willow, SW.	Empidonax traillii extimus	Chaves	Federal: Endangered State NM: Endangered
Ground-dove, Common	Columbina passerina pallescens (NM)	Chaves	State NM: Endangered
Owl, Spotted, Mexican	Strix occidentalis lucida (NM,AZ)	Chaves	Federal: Threatened
Pelican, Brown	Pelecanus occidentalis carolinensis (NM)	Chaves	State NM: Endangered
Plover, Piping	Charadrius melodus circumcinctus (NM)	Chaves	Federal: Threatened State NM: Threatened
Sparrow, Baird's	Ammodramus bairdii	Chaves	State NM: Threatened
Tern, Least	Sterna antillarum athalassos (NM)	Chaves	Federal: Endangered State NM: Endangered
Vireo, Bell's	Vireo bellii arizonae (NM,AZ);medius (NM)	Chaves	State NM: Threatened
Shrew, Least	Cryptotis parva parva (NM);berlandieri (NM)	Chaves	State NM: Threatened
Snail, Assiminea, Pecos	Assiminea pecos	Chaves	Federal: Endangered State NM: Endangered
Springsnail, Koster's	Juturnia kosteri	Chaves	Federal: Endangered State NM: Endangered
Springsnail, Roswell	Pyrgulopsis roswellensis	Chaves	Federal: Endangered State NM: Endangered

Amphipod, Noel's	Gammarus desperatus	Chaves	Federal: Endangered State NM: Endangered

Close Window

NHNM Vegetation Species Information

Common Name	Scientific Name	Fed Status	State Status
	Acarospora clauzadeana		
	Opuntia tunicata var. davisii		D
Copper Zephyr Lily	Zephyranthes longifolia		D
Great Sage	Salvia summa		S
Gypsogenus Ringstem	Anulocaulis gypsogenus		D
Gypsum Gramma	Bouteloua breviseta		D
Kuenzler's Hedgehog Cactus	Echinocereus fendleri var. kuenzleri	LE	E
Marble Canyon Rockcress	Sibara grisea		S
New Mexico Milk-vetch	Astragalus neomexicanus		S
Pecos Sunflower	Helianthus paradoxus	LT	E
Ping-pong Ball Button-cactus	Epithelantha micromeris		D
Wright's Marsh Thistle	Cirsium wrightii		

APPENDIX B: PUBLIC AND AGENCY CORRESPONDENCE

APR 03 2008

ALB-186
ENV-1.10

Honorable Paul Chinana
Governor, Pueblo of Jemez
P.O. Box 100
Jemez Pueblo, NM 87024

Subject: Consultation Invitation Regarding the Bureau of Reclamation's Drought Emergency Water Wells for Carlsbad, Eunice, and Hagerman, New Mexico

Dear Governor Chinana:

Reclamation is preparing three Environmental Assessments (EAs) for the funding of drought wells for the Cities of Carlsbad and Eunice, and the Town of Hagerman. The purpose of the drought well for the City of Carlsbad is to provide a supplemental source of municipal water for the city to fully utilize their existing water rights by providing additional capacity and operational flexibility within the Sheep's Draw well field during a drought emergency. In addition, the proposed well would be outfitted with a secondary power source (e.g. natural gas or diesel powered generator) that could be used during a power outage to maintain the City's municipal water supply during an emergency.

The emergency drought water wells will also provide the City of Eunice and the Town of Hagerman a supplemental source of municipal water. These projects are needed due to the severe drought now gripping the southwest United States and the potential for the drought to continue for the indeterminate future.

The EAs will evaluate the potential environmental and socioeconomic impacts from these actions, from taking no action, and from any alternative actions that may be identified.

The purpose of this letter is to invite your tribe's involvement on a government-to-government basis to identify any concerns your tribe may have regarding the potential effects of the proposed drought wells on trust assets, cultural and biological resources, or tribal health and safety. Reclamation wants to ensure that you have an opportunity to help us identify and address any issues important to your tribe.

Reclamation will gladly provide any additional information needed by you or your staff about the proposed projects or to describe the EAs in further detail. For more information or to arrange a meeting, please contact Ms. Marsha Carra, Environmental Protection Specialist, at 505-462-3602.

Sincerely,

ARTHUR R. VALVERDE

for John R. Poland
Area Manager

Continued on next page.

(A)

Identical Letter Sent To:

Mr. Bobby Jay
Tribal Administrator, Apache Tribe of Oklahoma
P.O. Box 1220
Anadarko, OK 73005

Mr. Johnny Wauqua
Chairman, Comanche Tribal Business Committee
P.O. Box 908
Lawton, OK 73502

Ms. Leigh Kuwanwisiwma
Director, Hopi Tribe Cultural Preservation Office
P.O. Box 123
Kykotsmovi, AZ 86039

Mr. John Sorrell
Hydrology, Pueblo of Isleta
117ATribal Road 40
P.O. Box 1270
Isleta, NM 87022

Honorable Levi Pesata
President, Jicarilla Apache Nation
P.O. Box 507
Dulce, NM 87528

Honorable Billy Evans Horse
Chairman, Kiowa Tribe of Oklahoma
P.O. Box 369
Carnegie, OK 73015

Honorable Carlton Palmer
President, Mescalero Apache Tribe
P.O. Box 227
Mescalero, NM 88340

Honorable Joe Shirley
President, Navajo Nation
P.O. Box 9000
Navajo Tribal Hill
Window Rock, AZ 86515

Honorable Frank Paiz
Governor, Ysleta del Sur Pueblo
P.O. Box 17579-Ysleta Station
119 South Pueblo Road
El Paso, TX 79917

Honorable Wallace Coffey
Chairman, Comanche Indian Tribe
P.O. Box 908
Lawton, OK 73502

Honorable Jeff Houser
Chairman, Fort Sill Apache Tribe of Oklahoma
Route 2, Box 121
Apache, OK 73006

Honorable Wayne Taylor, Jr.
Chairman, Hopi Tribe
P.O. Box 123
Kykotsmovi, AZ 86039

Honorable Robert J. Benavides
Governor, Pueblo of Isleta
117ATribal Road 40
P.O. Box 1270
Isleta, NM 87022

Mr. George Daingkau
Kiowa NAGPRA Coordinator
Route 2, Box 74
Ft Cobb, OK 73038

Honorable Earl Yeahquo
Chairman, Kiowa Business Committee
P.O. Box 369
Carnegie, OK 73015

Mr. Lawrence Morgan
Speaker, Navajo Nation Council
P.O. Box 3390
Window Rock, AZ 86515

Mr. Rick Casada, Cultural Resources Coordinator
Pueblo of Ysleta del Sur
P.O. Box 17579-Ysleta Station
119 South Pueblo Road
El Paso, TX 79917

Ms. Donna Stern-McFadden
Tribal Historic Preservation Officer
Tribal Historic Preservation Office
P.O. Box 227
Mescalero, NM 88340

WBR:MCarra:ronchaga:03/26/08:505-462-3602
G:\SecFiles\Envi\Carra, Marsha\NA Tribal Letters – 032008.doc

THE NAVAJO NATION

JOE SHIRLEY, JR.
PRESIDENT

BEN SHELLY
VICE-PRESIDENT

April 10, 2008

Mr. John Poland, Area Manager
Bureau of Reclamation
555 Broadway Blvd. NE, Suite 100
Albuquerque, New Mexico 87102-2352

Subject: Tribal Consultation Request. Proposing to construct Drought Emergency Water Wells for Carlsbad, Eunice, and Hagerman, New Mexico.

Dear Mr. Poland:

Our apology for an oversight and missing the deadline date of our response to your request, please note that in reference to your letter of April 03, 2008, the Historic Preservation Department – Traditional Culture Program (HPD-TCP) received a request for consultation regarding the above undertaking and/or project. After reviewing your consultation documents, HPD-TCP has concluded the proposed undertaking/project area **will not impact** any Navajo traditional cultural properties or historical properties.

However, if there are any inadvertent discoveries made during the course of the undertaking, your agency shall cease all operations within the project area. HPD-TCP shall be notified by telephone within 24 hours and a formal letter be sent within 72 hours. All work shall be suspended until mitigation measures/procedures have been developed in consultation with the Navajo Nation.

The HPD-TCP appreciates your agency's consultation efforts, pursuant to 36 CFR Pt. 800.1 (c)(2)(iii). Should you have additional concerns and/or questions, do not hesitate to contact me. My contact information is listed below.

Sincerely,

Mr. Tony Joe, Program Manager
Historic Preservation Department – Traditional Culture Program

Tel: 928.871.7688 Fax: 928.871.7886 E-mail: tonyjoe@navajo.org

TCP 08-575
File: Office file/chrono

I178-08

RECEIVED BOR
ALBUQUERQUE AREA OFFICE
OFFICIAL FILE COPY
APR 14 '08

Class	WTR-4.10	Action
Prj	GF	
Cntr #		
Fldr #		

Date	Initial	To
4/15	GRP	100
4/16	DH	105
4/16	mc	150
		200
4/17	mc	186